MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2021/2022

EHM3066 – ENGINEER AND SOCIETY

(TE/RE/ME)

8 AUGUST 2022
9.00 a.m. – 11.00 a.m.
(2 Hours)

INSTRUCTION TO STUDENT

1.This question paper consists of 4 pages including cover page with 4 questions only.

2. Attempt **ALL** questions. All questions carry equal marks and the distribution of the marks for each question is given.

3. Please write all your answers in the provided answer booklet.

Question 1

(a) State 2 major environmental issues that we (human) and the earth are facing currently.

[4 marks]

(b) Identify 3 major causes of air pollution and state 2 effect of air pollution.

[7 marks]

(c) State the greenhouse effect.

[3 marks]

(d) State the relevancy of Ukraine war 2022 to the high inflation that happens currently. State 2 measures to overcome this high inflation in Malaysia.

[8 marks]

(e) Name the ministry in Malaysia in charge of environment protection and the name of the minister in charge for year 2022.

[3 marks]

Question 2

(a) State 1 example of non-renewable energy and 1 example of renewable energy.

[4 marks]

(b) Energy is lost during conversion, thus, energy efficiency is very important. State 2 methods to improve energy efficiency to reduce energy lost during conversion.

[4 marks]

(c) Define Environmental Impact Assessment (EIA).

[2 marks]

(d) Name 2 sustainable developments goals in Agenda 2030.

[2 marks]

(e) State 2 roles of NGOs' in Environmental Protection.

[4 marks]

Continued...

(f) The distribution of water supply to our homes is state owned or federal owned? Water conservation can be done through minimizing the water wastage during the delivery process. State 2 actions that can be taken as individuals as well as water supply companies to reduce water wastage.

[1+4 marks]

(g) Deduce 2 examples on how Big Data Analytics and IoT can be used for Environmental Protection.

[4 marks]

Question 3

Science and technology play important roles in the development of a nation, and continuous development is essential for the wellbeing of the society at large. In line with the Sustainable Development Goals of the United Nations, Malaysia has embarked on the journey to transform the capabilities of its manufacturing and service industry to be Industry 4.0-ready.

a) List four technological areas of focus that are usually associated with Industry 4.0.

[4 marks]

b) In EACH of the areas listed in part a), illustrate by giving at least one specific example on how engineers can contribute to the implementation of Industry4WRD, the National Policy on Industry 4.0.

[8 marks]

c) Name one Sustainable Development Goal that is related to Industry4WRD, and give two examples on how Industry4WRD helps achieve that Sustainable Development Goal.

[5 marks]

d) Discuss two challenges currently faced by Malaysia in its Industry4WRD agenda. And for each challenge, suggest at least two technological approaches to address it.

[8 marks]

Continued...

Question 4

The Occupational Safety and Health Act 1994 (OSHA) has the main objectives of safeguarding the safety and health of persons at work and other persons at the place of work. During the recent Covid-19 pandemic, the government has made various policies to prevent the spread of the disease in the workplace. The implementation of these policies, however, rests heavily on the employers.

a) List four responsibilities of the employers under OSHA and for each responsibility, describe one specific thing the employers often do to prevent the spread of Covid-19 virus.

[8 marks]

b) List four responsibilities of the employees under OSHA and for each responsibility, describe one specific thing the employees often do to prevent the spread of Covid-19 virus.

[8 marks]

c) Many criticisms had been raised by the public over the approaches that the Malaysian government had taken in handling the pandemic. Discuss three issues that had been raised by the public, and suggest ways in which engineers can play an active part.

[9 marks]

End of page.